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Nishi et al.

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(54) **PLATEN AND LIQUID EJECTING APPARATUS**

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B41J 2/01 (2006.01)

(52) **U.S. Cl.** **347/104**; 347/31; 347/36

(58) **Field of Classification Search** 347/104, 347/36, 31, 103, 34, 33
See application file for complete search history.

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(57) **ABSTRACT**

A plate-shaped main body, has a first face formed with a recess portion defined by a bottom face and side walls and a second face which is opposite to the first face. The plate-shaped main body is formed with a through hole connecting the bottom face and the second face. An overhanging portion, is provided on at least one of the side walls in the vicinity of the first face, and is located so as to at least partially hang over the through hole.

2 Claims, 9 Drawing Sheets

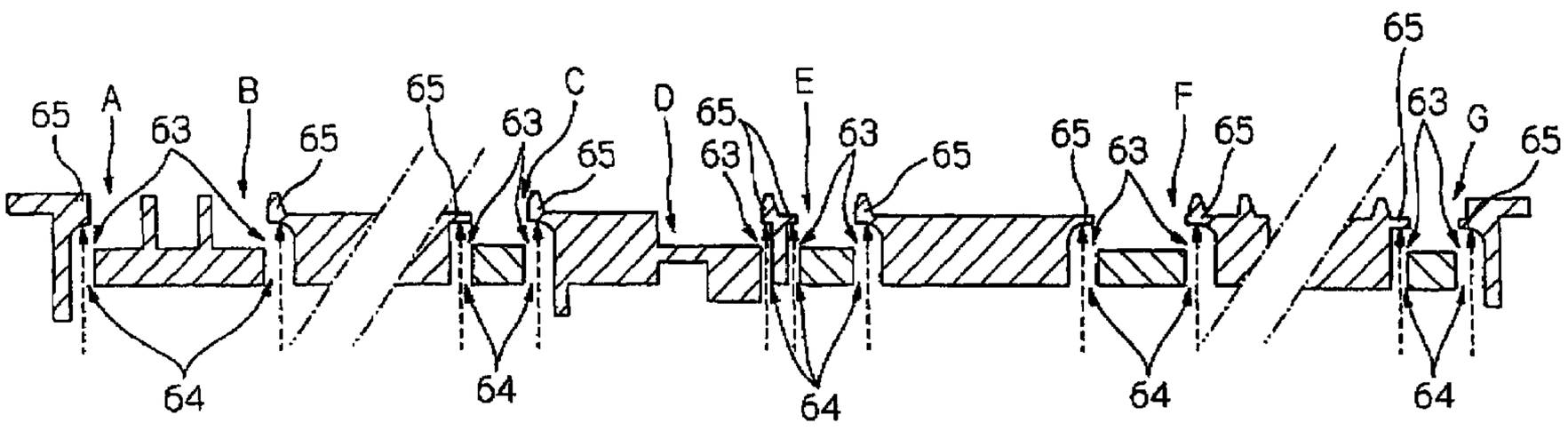
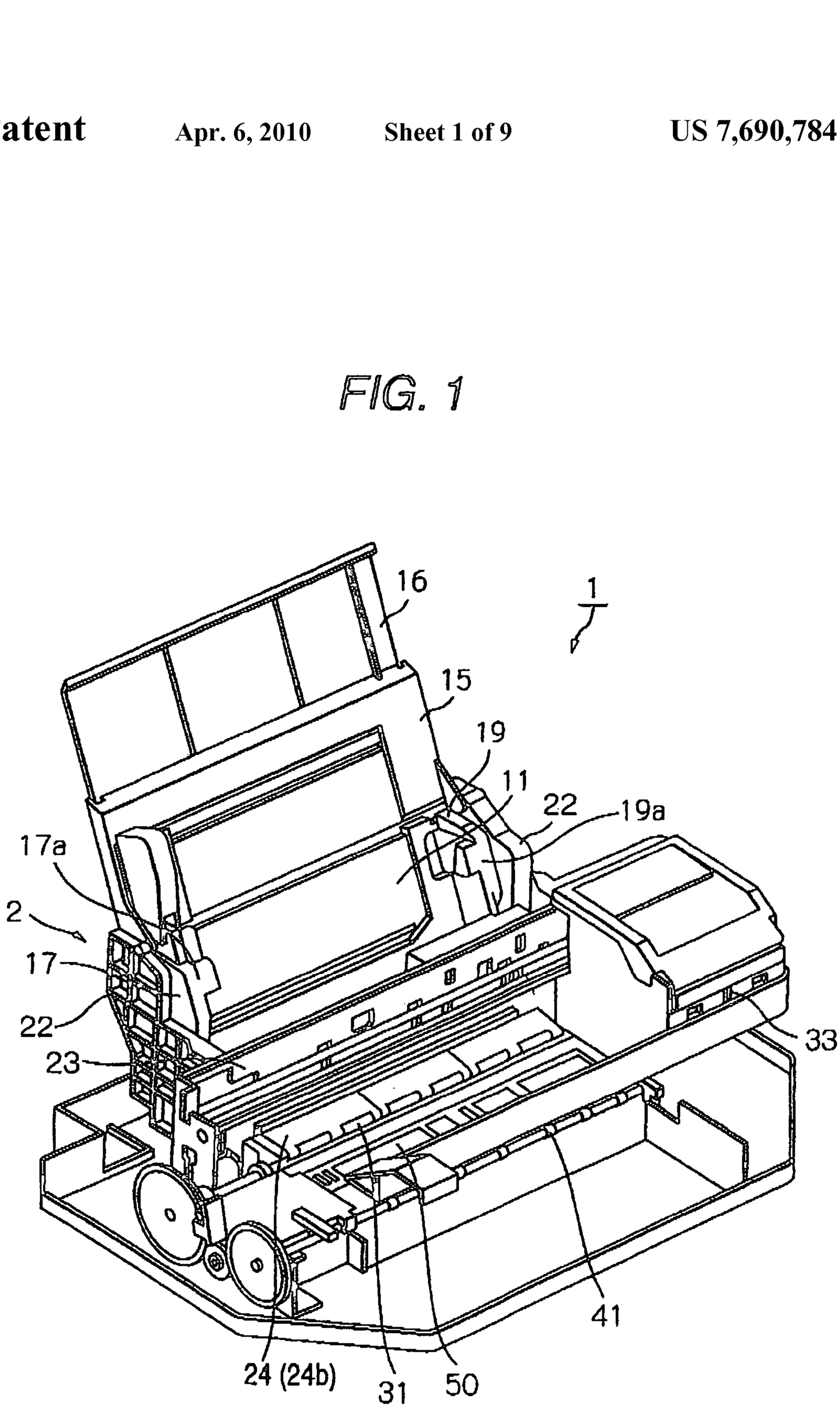
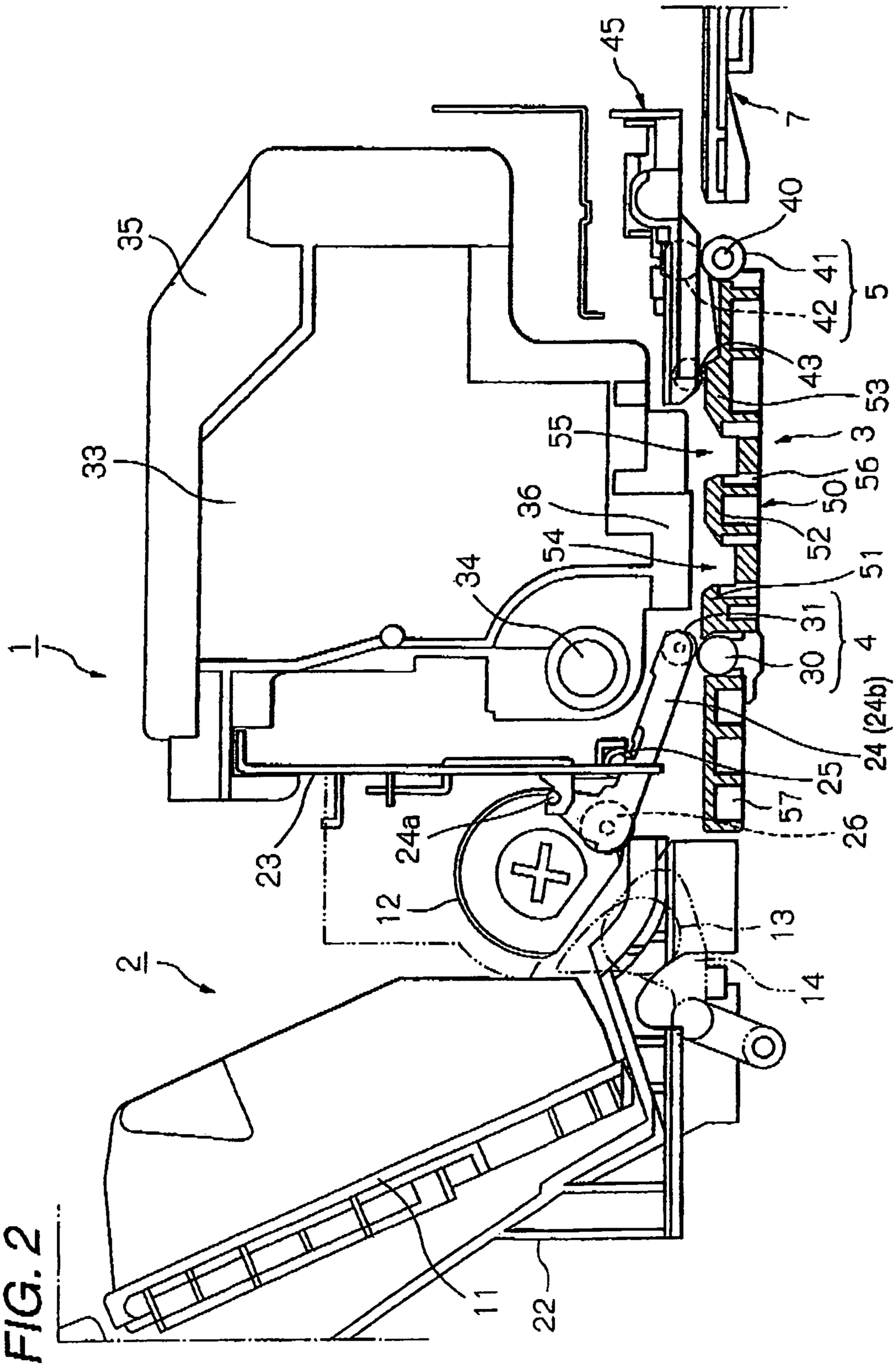


FIG. 1

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24 (24b)
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24a
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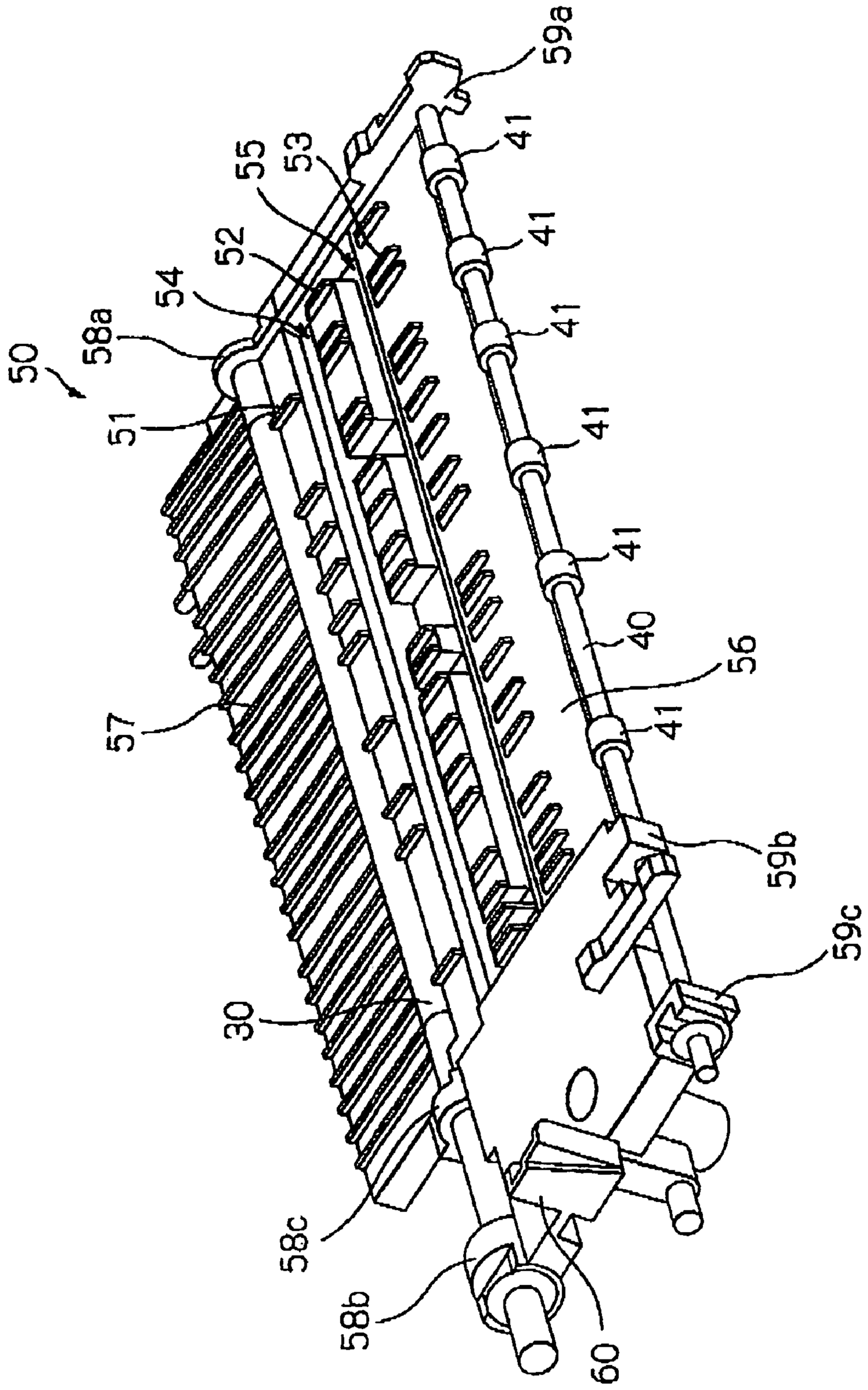
FIG. 2

FIG. 3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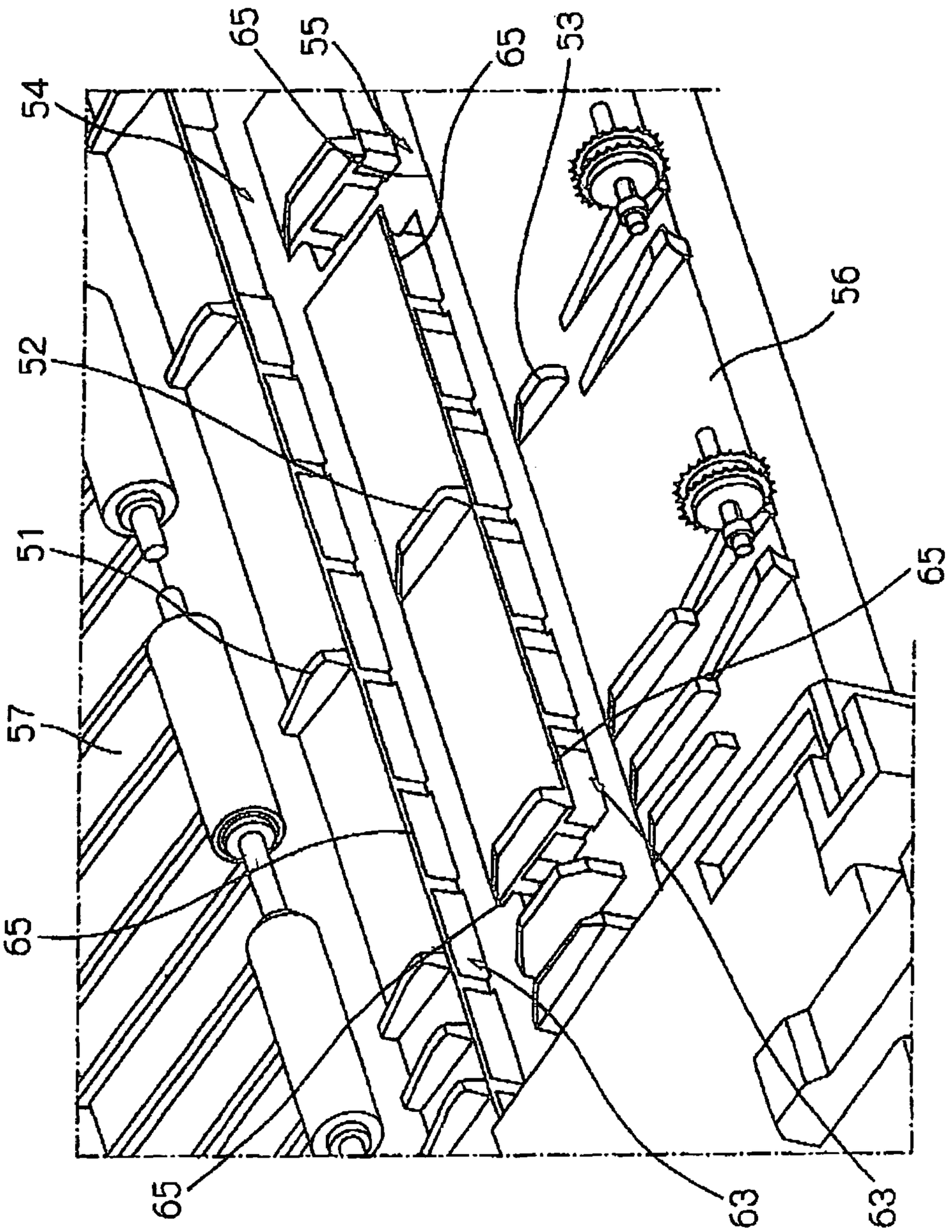


FIG. 4

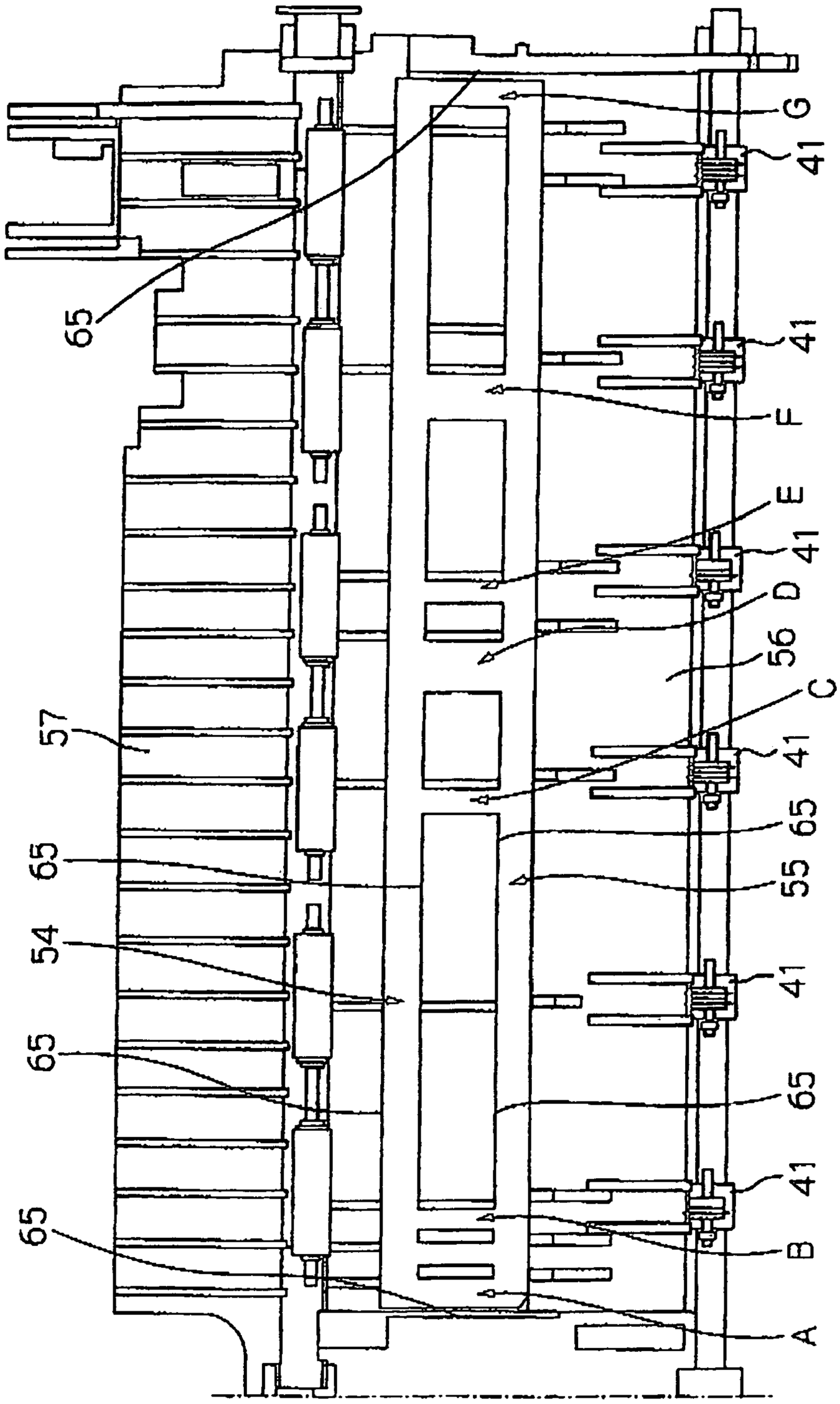
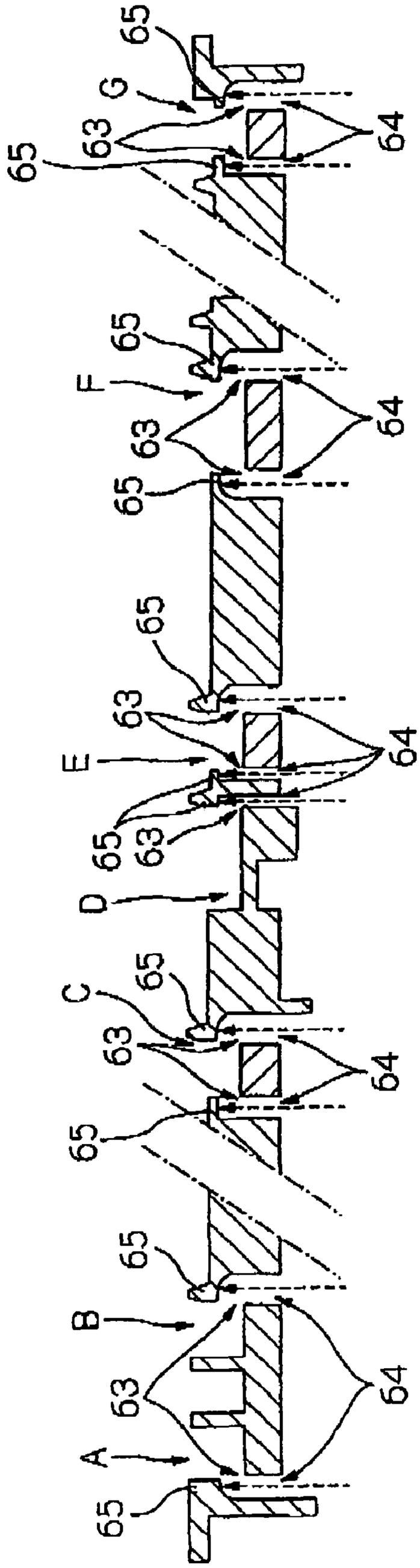


FIG. 5

FIG. 6



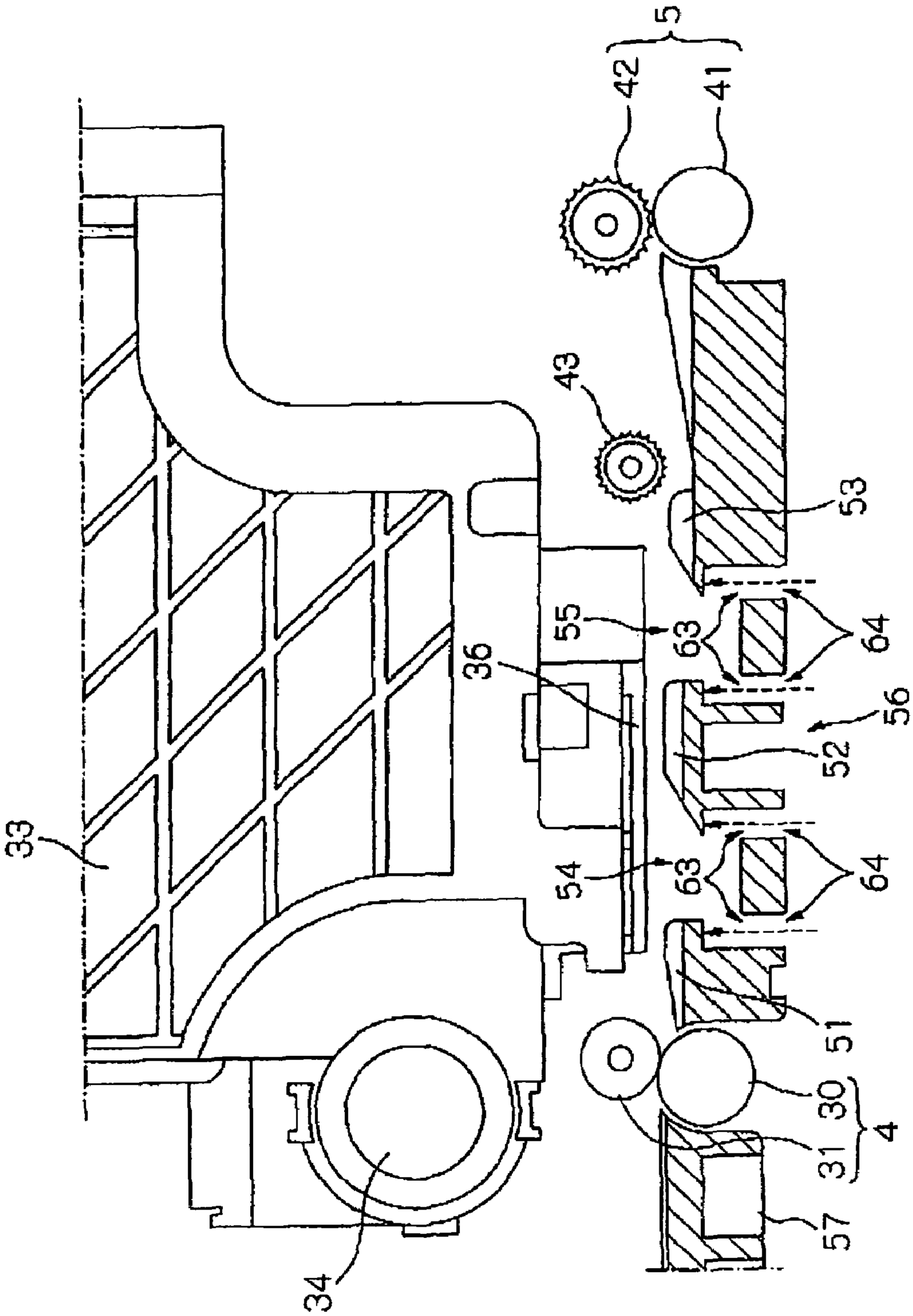
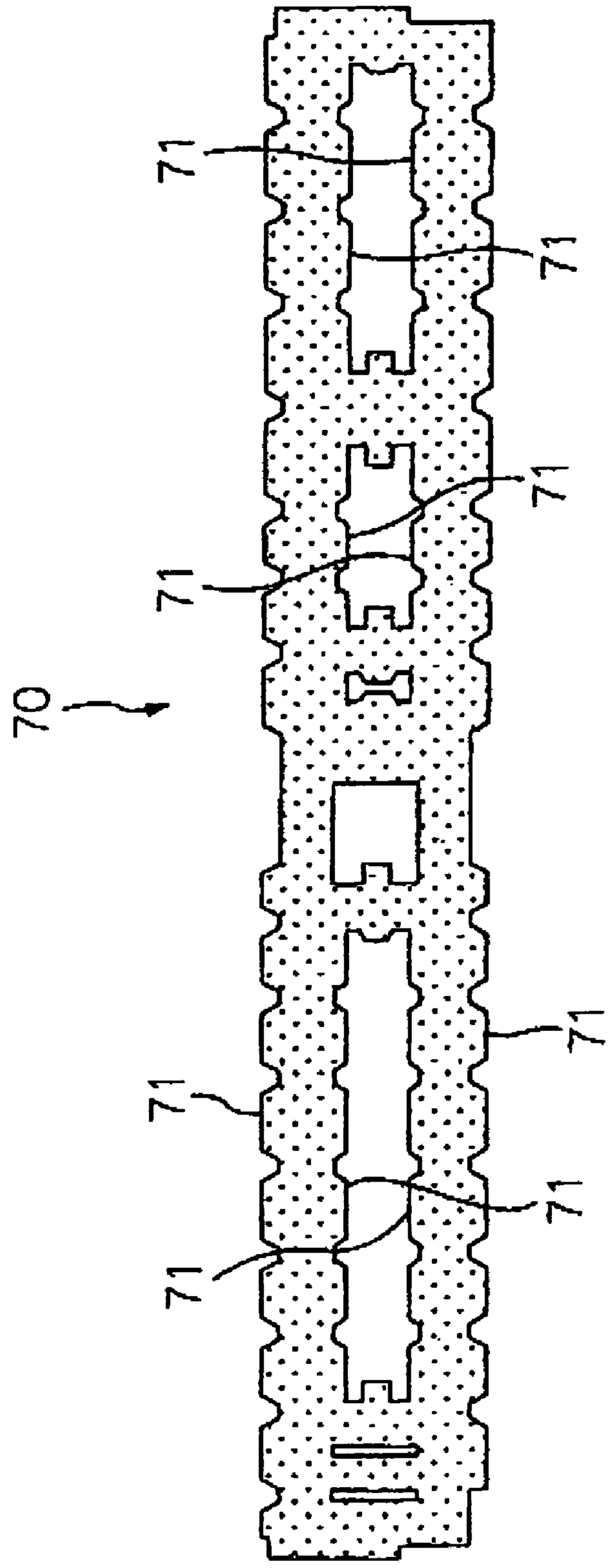


FIG. 7

FIG. 8



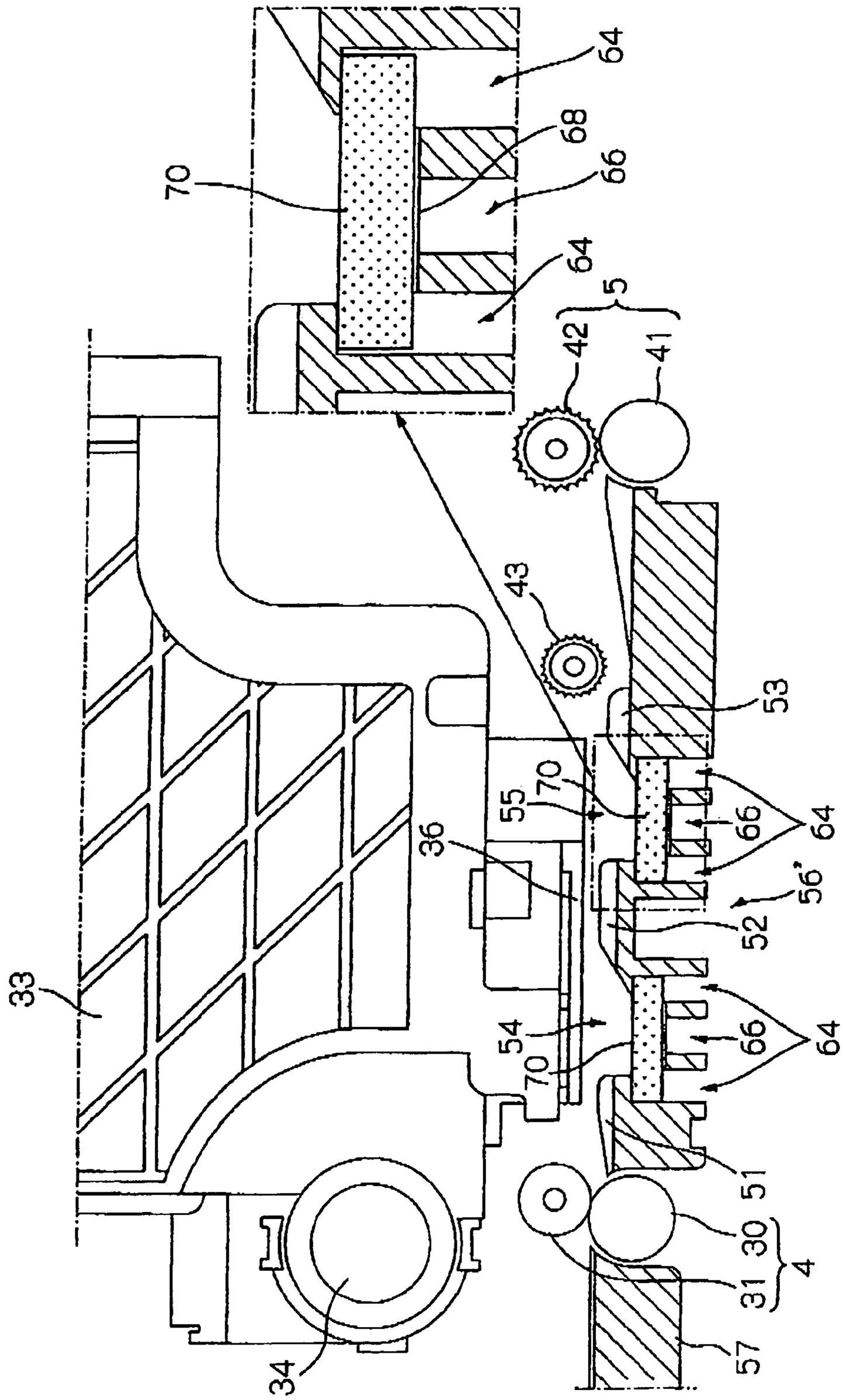

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FIG. 9

PLATEN AND LIQUID EJECTING APPARATUS

The disclosure of Japanese Patent Application No. 2005-273786 filed Sep. 21, 2005 including specification, drawings and claims is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

The present invention relates to a platen and a liquid ejecting apparatus having the same.

The liquid ejecting apparatus referred to herein means not only a recording apparatus, such as a printer, a copying machine, or a facsimile machine, which uses an ink-jet type recording head and performs recording on a recording medium by ejecting ink from the recording head, but also an apparatus in which, instead of the ink, a liquid corresponding to its application is ejected from a liquid ejecting head corresponding to the ink-jet type recording head onto a target medium corresponding to the recording medium, so as to allow the liquid to attach to the target medium.

As the liquid ejecting heads include, it is possible to cite, in addition to the recording head, a colorant ejecting head used in the manufacture of a color filter such as a liquid-crystal display, an electrode material (electroconductive paste) ejecting head used in the formation of electrodes for an organic EL display and a field emission display (FED), a bioorganic compound ejecting head used in the manufacture of a biochip, a sample ejecting head as a precision pipette, and so on.

Hereafter, the ink jet printer as one example of the liquid ejecting apparatus will be described. In recent years, ink jet printers have come to be generally widespread whereby super-high image quality printing which is on par with that of silver halide photography is easily realizable at homes, just as is called home DPE. Among such ink jet printers, there are those which are configured to be able to execute so-called marginless printing in which printing is also effected at the four sides of printing sheet without margins so as to obtain an output result equivalent to that of silver halide photography.

As the construction of such an ink jet printer, a generally adopted construction is such that recessed portions are provided in a platen provided so as to oppose the ink jet recording head and defining the distance between the printing sheet and the ink jet recording head, ink is ejected to regions offset from sheet end portions, and the ink ejected to the offset regions is discarded to the aforementioned recessed portions.

In addition, an ink absorbing material for absorbing the ink is provided in the recessed portions to prevent as practically as possible the floating of an ink mist due to the atomization of the ink which is discarded, and hole portions for ejecting the absorbed ink to below are formed in its bottom. Further, a construction is adopted in which the ink absorbed by the ink absorbing material is allowed to drop from the hole portions to a waste liquid collecting means (e.g., a waste liquid tray) provided below the platen (e.g., refer to Japanese Patent Publication No. 2002-86757A).

When the carriage with the recording head mounted thereon starts to move from a standstill state, there are cases where, in conjunction with this operation, a negative pressure is temporarily applied to the place where the cartridge was at a standstill.

If the above-described hole portions for ejecting the ink to outside are provided in the bottoms of the recessed portions formed in the platen, there occurs the flow of air which penetrates the platen upwardly from below owing to the occurrence of the aforementioned negative pressure. Due to such flow of air, the ink mist floating over the platen is scattered more extensively, so that there is a possibility that the interior of the apparatus is fouled, exerting an adverse effect on the constituent elements.

SUMMARY OF THE INVENTION

It is therefore an object of the invention to provide a platen and a liquid ejecting apparatus to prevent the ink mist from being scattered extensively due to the above-described flow of air occurring in conjunction with the moving operation of the carriage and from thereby fouling the interior of the apparatus, or to alleviate the extent of the fouling.

In order to achieve the above object, according to the invention, there is provided a platen comprising: a plate-shaped main body, having a first face formed with a recess portion defined by a bottom face and side walls and a second face which is opposite to the first face, and the plate-shaped main body formed with a through hole connecting the bottom face and the second face; and an overhanging portion, provided on at least one of the side walls in the vicinity of the first face, and located so as to at least partially hang over the through hole. With this configuration, even if there occurs the flow of air which is directed upwardly from below the platen through the through hole, the flow is hampered by the overhanging portions. Accordingly, it is possible to prevent the ink mist floating over the platen from being scattered more extensively, or alleviate the extent thereof. Namely, it is possible to prevent the fouling of the interior of the apparatus and the exerting of an adverse effect on the constituent elements, or alleviate the extent thereof.

The recess portion and the through hole may define a crank shaped channel connecting the first face and the second face. With this configuration, even if there occurs the flow of air which is directed upwardly from below the platen through the hole portions, the flow is hampered. Accordingly, it is possible to prevent the ink mist floating over the platen from being scattered more extensively, or alleviate the extent thereof. Namely, it is possible to prevent the fouling of the interior of the apparatus and the exerting of an adverse effect on the constituent elements, or alleviate the extent thereof.

The through hole may be formed on an entire peripheral edge of the bottom face. With this configuration, the ink is difficult to stay in the bottom, i.e., the ink can be ejected smoothly to outside the platen.

The recess portion may be adapted to accommodate an ink absorbing member; and the overhanging portion may be adapted to retain the ink absorbing member accommodated in the recess portion. With this configuration, the ink absorbing member can be retained on the recess portion inexpensively.

According to the invention, there is also provided a liquid ejecting apparatus comprising: a liquid ejecting head, operable to eject liquid toward a target medium; and the platen as described above, which is disposed so as to oppose the liquid ejecting head and is adapted to support the target medium so as to define a gap between the target medium and the liquid ejecting head. With this configuration, the liquid ejecting apparatus is able to obtain operational effects similar to above-described operational effects.

BRIEF DESCRIPTION OF THE DRAWINGS

The above objects and advantages of the present invention will become more apparent by describing in detail preferred exemplary embodiment thereof with reference to the accompanying drawings, wherein:

FIG. **1** is a perspective view of an apparatus body of a printer in accordance with the invention;

FIG. **2** is a cross-sectional view of the printer;

FIG. **3** is a perspective view of a lower sheet guide and constituent elements in the vicinity of the same;

FIG. **4** is an enlarged perspective view of a platen in the printer;

FIG. **5** is a plan view of the lower sheet guide;

FIG. **6** is a cross-sectional view, taken along the main scanning direction, of the platen;

FIG. **7** is a cross-sectional view, taken along the sub scanning direction, of the platen;

FIG. **8** is a plan view of an ink absorbing material; and

FIG. **9** is a cross-sectional view, taken along the sub scanning direction, of a platen in accordance with another embodiment.

DETAILED DESCRIPTION OF THE EMBODIMENTS

Embodiments of the invention will be described in detail with reference to the accompanying drawings. Hereafter, referring to FIGS. **1** and **2**, a description will be given of the outline of an ink jet printer hereafter referred to as the "printer") **1** as one example of a liquid ejecting apparatus in accordance with the invention. It should be noted that in the following description the rightward direction side (front side of the printer) in FIG. **2** will be referred to as the "downstream side" of a sheet transporting (feeding) route, while the leftward direction side (rear side of the printer) will be referred to as the "downstream side" thereof.

The printer **1** has a feeding device **2** whereby recording sheet (cut sheet in the main; hereafter referred to as the "sheet P") as one example of the "recording medium" or the "target medium" can be set in an inclined posture, and the sheet P is fed from the feeding device **2** toward a recording medium transporting means **4**. The fed sheet P is transported to a recording means **3** on the downstream side by the recording medium transporting means **4** to execute recording. The sheet P on which recording has been performed by the recording means **3** is ejected to forwardly of the apparatus by a recording media ejecting means **5** on the downstream side.

Hereafter, a more detailed description will be given of the constituent elements of the printer **1** on the sheet transporting route. The feeding device **2** is comprised of a hopper **11**, a feed roller **12**, a retard roller **13**, a return lever **14**, a sheet support **15**, an auxiliary support **16**, a movable edge guide **17**, and a fixed edge guide **19**.

The hopper **11** consists of a plate-like member and is provided swingably about a swinging fulcrum (not shown) at its upper portion. As the hopper **11** is swung, it is changed over between a pressure contact posture in which the sheet P supported on the hopper **11** in the inclined posture is brought into pressure contact with the feed roller **12** and a spaced-apart posture in which the sheet P is spaced apart from the feed roller **12**. The feed roller **12** is formed in a substantially D-shape in a side view, and is controlled such that the sheet P at the uppermost position is fed to the downstream side by its circular arc portion, and such that while the sheet P is being transported by the recording medium transporting means **4** after the feeding of the sheet P, its flat portion opposes the sheet P so as not to apply a transporting load, as shown in the drawing.

The retard roller **13**, which has its outer periphery formed of an elastic material, is provided so as to be capable of being brought into pressure contact with the circular arc portion of the feed roller **12**, and is provided in a state in which a predetermined rotational resistance (torque) is applied thereto. In a case where the multiple feeding of the sheet P does not occur and only one sheet is being fed, a torque exceeding the aforementioned rotational resistance is applied to the retard roller **13**, so that the retard roller **13** is drivenly rotated (clockwise in FIG. **2**) with respect to the feed roller **13**. Meanwhile, in a case where a plurality of sheets of the sheet P are present between the first ribs **12** and the retard roller **13**, since the coefficient of friction between the sheets of sheet is lower than the coefficient of function between the sheet P and the retard roller **13**, the torque exceeding the aforementioned rotational resistance is not applied to the retard roller **13**, so that the retard roller **13** doe not rotate and remains at a standstill. Accordingly, the subsequent sheets of the sheet P which tend to be fed overlapped by accompanying the uppermost sheet P to be fed do not advance from the retard roller **13** toward the downstream side, thereby preventing the multiple feeding.

The return lever **14** is provided swingably in a side view of the feeding route of the sheet P. As the return lever **14** is swung, the return lever **14** exhibits the action of returning onto the hopper **11** the subsequent sheets of the sheet P which tended to be fed overlapped.

The sheet support **15** and the auxiliary support member **16** (FIG. **1**) end the sheet supporting surface in the hopper **11** toward the rear end of the sheet P to support the rear end of the sheet P.

The movable edge guide **17** and the fixed edge guide **19** are provided so as to oppose each other in the hopper **11**, and abut against the edges of the sheet P to rests the positions of the edges. The movable edge guide **17** is provided displaceably (slidably) in the widthwise direction of the sheet P in the hopper **11**, with the result that the movable edge guide **17** is displaceable to an appropriate position fitted to the widthwise dimension of the sheet P.

It should be noted that reference numerals **17***a* and **19***a* denote restricting portions which are respectively formed on the movable edge guide **17** and the fixed edge guide **19**. These restricting portions **17***a* and **19***a* function to guide the sheet P at the time of setting the sheet P, and restrict a maximum number of sheets (an allowable maximum number of sheets) of the sheet P which are supported on the hopper **11** (set in the feeding device **2**).

Next, the following are provided between the feeding device **2** and the recording medium transporting means **4**: sheet detecting means (not shown) for detecting the passage of the sheet P; a guide roller **26** which forms the posture of the sheet P being fed and prevents the contact of the sheet P with the feed roller **12** so as to alleviate the transport load; and a rear portion guiding member **57** for guiding to the recording medium transporting means **4** the sheet P being fed.

The recording medium transporting means **4** provided on the downstream side of the feeding device **2** is comprised of a transport drive roller **30** which is rotatively driven by a motor and transport driven rollers **31** which are drivenly rotated by coming into pressure contact with the transport drive roller **30**. The transport drive roller **30** is formed by having an adherent layer in which abrasion resistant particles are dispersed substantially uniformly on an outer peripheral face of a metallic shaft extending in the widthwise direction of the sheet. The transport driven rollers **31** has its outer peripheral surface formed of a low friction material such as an elastomer, and are arranged in the axial direction of the transport drive roller **30**.

More specifically, in this embodiment, two transport driven rollers **31** are axially supported freely rotatably at a downstream end portion of each of three main body portions **24***b* constituting an upper sheet guide **24**. As the three main body portions **24***b* are provided in the widthwise direction of the

sheet, as shown in FIG. **1**, the three main body portions **24***b* as a whole constitute the upper sheet guide **24**. As a shaft **24***a* of the upper sheet guide **24** is axially supported by a main frame **23**, the upper sheet guide **24** is provided swingably about the shaft **24***a* in a side view of the sheet feeding route, and is urged by a coil spring **25** in a direction in which the transport driven rollers **31** are brought into pressure contact with the transport drive roller **30**.

The sheet P which reached the recording medium transporting means **4** is transported to the recording means **3** on the downstream side as the transport drive roller **30** rotates in a state in which the sheet P is nipped by the transport drive roller **30** and the transport driven rollers **31**.

The recording means **3** is comprised of an ink jet recording head (hereafter, the "recording head") **36** and a lower sheet guide **50** (platen **56**) provided in such a manner as to oppose the recording head **36**. The recording head **36** is provided on a bottom portion of a carriage **33**, and the carriage **33** is driven so as to reciprocate in the main scanning direction by an unillustrated drive motor while being guided by a carriage guide shaft **34** extending in the main scanning direction. Further, ink cartridges **35** which are respectively independent for a plurality of colors are installed on the carriage **33** to supply ink to the recording head **36**.

On the lower sheet guide **50** (platen **56**) which defines the distance between the sheet P and the recording head **36**, first ribs **51**, second ribs **52**, and third ribs **53** are formed on its surface opposing the recording head **36**, and grooves **54** and **55** and grooves A to G (see FIG. **5**) serving as "recessed portions" for discarding the ink are formed therein. It should be noted that a detailed description will be given later of the construction of the lower sheet guide **60**.

Subsequently, an auxiliary roller **43** and the recording medium ejecting means **5** are provided on the downstream side of the recording head **36**. The auxiliary roller **43** is provided so as to be drivenly rotated in contact with the recording surface of the sheet P on the sheet transporting route ranging from the region where the recording head **36** and the platen **56** oppose each other to the recording medium ejecting means **5**. Hence, the auxiliary roller **43** functions to maintain the distance between the sheet P and the recording head **36** to a fixed distance by preventing the lifting up of the sheet P from the platen **56**. The recording medium ejecting means **5** is comprised of eject drive rollers **41** which are rotatively driven by an unillustrated motor and eject driven rollers **42** which are drivenly rotated in contact with the eject drive rollers **41**. In this embodiment, the eject drive rollers **41** are constituted by rubber rollers and are arranged in the anal direction of a rotating shaft **40** which is rotatively driven (see FIG. **3**).

The eject driven rollers **42** are constituted by toothed rollers having a plurality of teeth on their outer peripheries, and are provided on a sheet eject frame assembly **45** having an elongated shape in the main scaring direction so as to respectively correspond to the eject drive rollers **41**. The sheet P on which recording has been performed by the recording means **3** is ejected toward the front side (unillustrated stacker) of the apparatus as the eject drive rollers **41** are rotatively driven in a state in which the sheet P is nipped by the eject drive rollers **41** and the eject driven rollers **42**.

The above-described is the outline of the printer **1**, and a detailed description will be given of the lower sheet guide **50** with reference to FIGS. **3** to **8**. Here, FIG. **3** is an external perspective view of the lower sheet guide **50** and constituent elements in its vicinities. FIG. **4** is a partial enlarged perspective view of the lower sheet guide **50** (platen **56**). FIG. **5** is a plan view of the lower sheet guide **50**. FIG. **6** is a cross-sectional view, taken along the main scanning direction, of the lower sheet guide **50** (platen **56**). FIG. **7** is a cross-sectional view, taken along the sub scanning direction, of the lower sheet guide **50** (platen **56**). FIG. **8** is a plan view of an ink absorbing material **70**.

As shown in FIG. **3**, the lower sheet guide **50**, which is integrally molded from a resin material, has as its principal body the platen **56** on the downstream side of the transport drive roller **30**, and is integrally comprised mainly of the rear portion guiding member **57** on the upstream side of the transport drive roller **30**, bearing portions **58***a*, **58***b*, and **58***c* for axially supporting the transport drive roller **30**, bearing portions **59***a*, **59***b*, and **59***c* for anally supporting the rotating shaft **40** of the eject drive rollers **41**, and a rotation-detecting-means attaching portion **60** for attaching a rotation detecting means (not shown) for detecting the amount of rotation of the transport drive roller **30**.

As has been described with reference to FIG. **2**, the platen **56** is provided at a position opposing the recording head **36**, defines a gap between the sheet P and the recording head **36**, and guides the sheet P to the downstream side. The rear portion guiding member **57** guides to the transport drive roller **30** the sheet P which is fed from the feeding device **2**.

As shown in FIGS. **3** to **5**, on the surface of the platen **56** opposing the recording head **36**, the first ribs **51** extending in the sub scanning direction are provided in the vicinity of the downstream side of the transport drive roller **30**; the second ribs **52** extending in the sub sang direction are provided on the downstream side of the first ribs **51** with the groove **54** located therebetween; and the third ribs **53** are provided on the downstream side of the second ribs **52** with the groove **55** located therebetween. The first ribs **51**, the second ribs **52**, and the third ribs **53** are respectively provided at appropriate intervals in the main scanning direction, support the sheet P from below, and define the gap between the sheet P and the recording head **36**. It should be noted that the second ribs **52** are located in a range where ink ejecting nozzles (not shown) in the recording head **36** are formed, while the first ribs **51** and the third ribs **53** are located outside the range where the ink ejecting nozzles are formed.

As described above, the groove **54** extending in the main scanning direction is formed between the first ribs **51** and the second ribs **52**, and the groove **55** extending in the main scanning direction is similarly formed between the second ribs **52** and the third ribs **53**. In addition, the grooves A to G are formed between the first ribs **51** and the third ribs **53** at portions corresponding to side end positions of the sheet P of predetermined sizes.

The grooves **54** and **55** are for respectively discarding ink droplets which are ejected to portions offset from a trailing end and a leading end of the sheet P. Namely, when the leading end of the sheet P has reached the upper portion of the groove **55**, ink droplets are ejected to the leading end of the sheet P and a portion offset from that leading end, whereby marginless recording is executed at the leading end of the sheet P, and the ink droplets offset from the leading end of the sheet P are discarded to the groove **55**. Also, when the trailing end of the sheet P has reached the upper portion of the groove **54**, ink droplets are ejected to the trailing end of the sheet P and a portion offset from that trailing end, whereby marginless recording is executed at the trailing end of the sheet P, and the ink droplets offset from the trailing end of the sheet P are discarded to the groove **54**.

Also, the grooves A to G are for discarding ink droplets which are ejected to portions offset from side ends of the sheet P. Specifically, the groove G is provided at a position where a side end on one side of the sheet P of all sizes passes, while the

grooves A to F are respectively provided at positions where side ends on the other sides of the sheet P of the respective sizes pass. As ink droplets are ejected to portions offset from both side ends of the sheet P on which recording is performed, marginless recording is executed at the side ends of the sheet P, and the ink droplets are discarded to the grooves provided at positions corresponding to the sheet width.

As also shown in FIG. **2**, the rear portion guiding member **57** is located in the vicinity of the upstream side of the transport drive roller **30**, and has on its surface a plurality of ribs extending in the sub scanning direction at appropriate intervals in the main scanning direction so as to guide the sheet P smoothly to the transport drive roller **30**.

Next, as shown in FIG. **3**, the transport drive roller **30** located between the rear portion guiding member **57** and the platen **56** is anally supported by the bearing portions **58***a*, **58***b*, and **58***c* hereafter, collectively referred to as the "bearing portions **58**," as required) which are integrally formed of a resin material together with the rear portion guiding member **57** and the platen **56**. Also, the rotating shaft **40** of the eject drive rollers **41** located on the downstream side of the platen **56** are axially supported by the bearing portions **59***a*, **59***b*, and **59***c* (hereafter, collectively referred to as the "bearing portions **59**," as required) which are integrally formed of the material together with the rear portion guiding member **57** and the platen **56**.

Accordingly, since the constituent elements of the rear portion guiding member **57**, the bearing portions **58**, and the bearing portions **59** are integrally provided on the platen **56**, it is possible to reduce the number of steps of assembly as compared with the construction in which the constituent elements are separately formed and are subsequently assembled. At the same time, it becomes possible to minimize variations in the manufacture of the constituent elements, assembly errors at the time of assembly, and so on. In consequence, it is possible to form a sheet transport route of more uniform quality, with the result that individual differences between apparatuses decrease, thereby making it possible to realize further stabilization of the recording quality. In addition, it becomes possible to prevent a decline ion the sheet transporting accuracy, and when marginless printing is executed, it becomes possible to minimize the amount of ink discarded by being offset from the end portions of the sheet P. Namely, it becomes possible to appropriately execute marginless printing in which the amount of image data discarded is extremely small.

In addition, since the bearing portions **58** for pivotally supporting the transport drive roller **30** are provided at both shaft end positions (bearing portions **58***a* and **58***c*) of the transport drive roller **30** and one position (bearing portion **58***b*) between the both shaft end positions, the transport drive roller **30** is difficult to deflect even if it is subjected to a pressing load from the transport driven rollers **31**. Hence, it is possible to prevent the deformation of the transport drive roller **30**. Further, since the bearing portions **58** are provided integrally with the platen **56** by resin molding, even if the transport drive roller **30** is anally supported at a plurality of positions, since the positions of the bearing portions are accurately fixed, the transport drive roller **30** can be driven smoothly without imparting a load thereto.

In addition, since the rotating shaft **40** of the eject drive rollers **41** is also axially supported at both shaft end positions (bearing portions **59***a* and **59***c*) and one position (bearing portion **59***b*) therebetween, it is possible to obtain an operational effect similar to the case of the transport drive roller **30** described above. Furthermore, even if backlash (clearance) has occurred between the rotating shaft **40** of the eject drive rollers **41** and each of the bearing portions **59***a* to **59***c*, since the rotating shaft **40** of the eject drive rollers **41** is axially supported at the plurality of positions, the bearing portions **59***a* to **59***c* are arranged at mutually offset positions with respect to the rotating shaft **40**, it is possible to overcome the backlash.

Next, a description will be given of hole portions **64** for ejecting the ink discarded to the grooves **54** and **55** and the grooves A to G to outside (below) the lower sheet guide **50**.

The hole portions **64** are formed over the entire peripheral edges of the bottoms of the grooves **54** and **55** and the grooves A to G, and openings **63** at upper portions of all the hole portions **64** are formed in such a manner as to oppose side walls of the grooves **54** and **55** and the grooves A to G. In other words, as shown in FIGS. **6** and **7**, each hole portion **64** has a shape in which it extends from the bottom toward the upper portion, and a protective portion **65** is formed on the upper side of the opening of each hole portion **64**. Namely, each hole portion **64** is formed in a crank shape so as not to form a channel of the fluid (air and ink) which would penetrate the platen **56** straightly upwardly from below.

The hole portions **64** which are thus formed exhibit the following operational effect. When the carriage **33** starts to move from the standstill state, there are cases where, in conjunction with that moving operation, a negative pressure is temporarily applied to the place where the cartridge **33** was at a standstill. Consequently, if there occurs the flow of air which is directed upwardly from below through the hole portions **64**, an ink mist floating over the platen **56** is scattered more extensively, so that there is a possibility that the interior of the apparatus is fouled, exerting an adverse effect on the constituent elements.

However, since the protective portion **65** is provided on the upper side of the opening of each hole portion **64**, as described above, the flow of air which is directed upwardly from below through the hole portion **64** abuts against the protective portion **65**, and the flow is hampered, as indicated by an arrow in FIGS. **6** and **7**. Namely, since the flow of air which would penetrate straightly upwardly from below through the hole portion **64** is not produced, even if the flow of air which is directed upwardly from below is produced in the hole portion **64** in conjunction with the movement of the carriage **33**, since the flow is hampered, the ink mist floating over the platen **56** can be prevented from being scattered more extensively, or the extent of the scattering can be alleviated.

It should be noted that, in this embodiment, since the protective portion **65** is formed in such a manner as to substantially completely cover the opening of the hole portion **64** in a plan view of the platen **56**, as shown in FIG. **5**, the flow of air which is directed upwardly from below through the hole portion **64** is prevented more reliably.

The ink absorbing material **70** shown in FIG. **8** is disposed in the grooves **54** and **55** and the grooves A to G. On this ink absorbing material **70**, as shown in the drawing, a plurality of projecting portions **71** are formed on its surfaces opposing the inner side walls of the respective grooves when it is disposed in the grooves **54** and **55** and the grooves A to G. Accordingly, when the ink absorbing material **70** is disposed in the grooves **54** and **55** and the grooves A to G, the ink absorbing material **70** is disposed such that its projecting portions **71** are fitted in the openings **63** (FIG. **4**).

As a result, the ink absorbing material **70** is held inside the grooves **54** and **55** and the grooves A to G more reliably, so that the lifting up of the ink absorbing material **70** toward the recording head **36** side can be prevented reliably. Therefore, it becomes possible to prevent such drawbacks as the fouling of the reverse surface of the sheet P due to the lifting up of the ink

absorbing material **70** and causing a decline in the recording quality due to a change in the gap between the sheet P and the recording head **36**. Here, since the protective portion **65** formed on the upper side of the opening of each hole portion **64** also serves as a holding means for holding in the respective grooves the ink absorbing material **70** disposed in the grooves **54** and **55** and the grooves A to G, it becomes possible to inexpensively provide the construction for holding the ink absorbing material **70** in the respective grooves.

It should be noted that there are cases where, depending on the circumstances at the time of, for instance, resin molding, hole portions **66** which would penetrate the platen **56** straightly upwardly from below are inevitably formed at the bottoms of the grooves **54** and **55** (and the grooves A to G), as shown in FIG. **9**. It should be noted that FIG. **9** is a cross-sectional view, taken along the sub scanning direction, of a platen **56'** in accordance with another embodiment.

In such a case, if the ink absorbing material **70** formed of a porous material is merely disposed as it is, there can occur the flow of air which would penetrate the ink absorbing material **70** upwardly from below when the cartridge **3** is moved, whereby the ink mist floating over the platen **56'** is possibly scattered extensively.

Accordingly, in such a case, as a sheet material such as the one indicated by reference numeral **68** in FIG. **9** is laid in the bottoms of the grooves **54** and **55** (and the grooves A to G), it is possible to shut off the flow of air passing through the hole portions **66**. Since the flow of air which would penetrate the ink absorbing material **70** upwardly from below does not occur, it is possible to prevent the scattering of the ink mist extensively.

What is claimed is:

1. A liquid ejecting apparatus comprising:

a liquid ejecting head, operable to eject liquid toward a target medium; and

a liquid receiver adapted to receive the liquid ejected to a position offset from a side end of the target medium and opposing the liquid ejecting head, the liquid receiver including:

a bottom face;

a plurality of hole portions adapted to discard downwards the received liquid from the bottom face;

an opening disposed above the bottom face; and

a plurality of protective portions each of which corresponds to a respective one of the hole portions, the protective portions formed at an edge of the opening overhanging so as to substantially cover the hole portions from above.

2. A liquid ejecting apparatus comprising:

a liquid ejecting head, operable to eject liquid toward a target medium; and

a liquid receiver adapted to receive the liquid ejected to a position offset from a side end of the target medium and opposing the liquid ejecting head, the liquid receiver including:

a bottom face;

a plurality of hole portions adapted to discard downwards the received liquid from the bottom face;

an opening disposed above the bottom face; and

a plurality of protective portions each of which corresponds to a respective one of the hole portions, the protective portions formed at an edge of the opening overhanging so as to hamper a flow of air which is directed upwardly through the hole portions.

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